

SECTION VII.—WEATHER AND DATA FOR THE MONTH.

THE WEATHER OF THE MONTH.

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As affecting crop conditions, March was on the whole unfavorable over the districts east of the Mississippi. In the winter grain belt cold weather delayed growth, and lack of surface moisture, especially over the more eastern districts, doubtless materially lessened the vitality of the plants already injured by the frequent freezing and thawing owing to lack of snow covering during the winter. In the districts west of the Mississippi the snow covering was more satisfactory and the moisture therefrom entered the ground slowly, and the crop at the end of the month was not seriously in need of more moisture, while in the far West it was reported as being in good condition.

In the trucking districts of the far South cold weather seriously injured the early crops, while farther north it delayed planting and germination.

Pressure.—The distribution of the mean atmospheric pressure over the United States and Canada, and the prevailing direction of the winds, are graphically shown on Chart VII, while the average values for the month at the several stations, with the departures from the normal, are shown in Tables I and III.

For the month as a whole the barometric pressure was low over the New England and Middle and South Atlantic States, including all of Florida, the eastern portion of Tennessee, and the Canadian Provinces east of Lake Huron. The most marked negative departures occurred in the New England States and the Canadian Provinces to the northeastward, where they were unusually large. Over all other portions of the country the means for the month were above the normal, with the greatest positive departures appearing in eastern Montana, the Dakotas, Nebraska, and western portions of Kansas and Minnesota, and that portion of Canada just north of those States.

During the first few days of the month a marked high pressure area obtained throughout the Central Valleys, while elsewhere the pressure was near the normal. These conditions were followed by a low area of considerable magnitude which covered the larger part of the country east of the Rocky Mountains, which in turn was followed by a rather marked high area extending from Canada to the Gulf, which conditions continued until near the middle of the month, during which time the weather was generally clear and comparatively cool.

From the middle until the end of the month moderately low and relatively high pressure areas followed one another across the country in rather rapid succession, but the high areas largely predominated, resulting in much fair and rather cold weather, with comparatively little rain in most sections.

The distribution of the highs and lows was favorable for general northwesterly winds in the Mississippi Valley and to the eastward, and northerly in Texas, Oklahoma, the western portions of Kansas, Nebraska, and in the Dakotas. Elsewhere variable winds prevailed.

Temperature.—Not since extensive official meteorological records began, more than 40 years ago, has the weather for March, over the southeastern portions of the country, been so continuously cold as during the month just ended. In some of the States of this section

the average temperature for each day of the month, with one or two exceptions, was below the normal. The small variations in temperature from day to day were also unusual, the daily changes showing no greater variations than would be expected in a summer month, a condition most unusual for March, notable for its changeable weather.

These remarkably continuous low temperature conditions were due to the persistent low pressure that obtained in the Atlantic Coast States and over the ocean to the eastward and northeastward, in conjunction with high barometric readings over the interior of the country. This pressure distribution resulted in a pronounced prevalence of northwesterly winds over the country from the Plains region eastward to the Atlantic, causing an influx over those districts of cold air from northern districts. However, over the extreme northern section and to the westward of the Rocky Mountains the temperature was more seasonable and somewhat above normal.

Save for moderately low temperatures in the South, March opened with fair and pleasant weather in nearly all districts. These conditions were maintained until the 3d, when lower temperatures overspread the northern districts and stormy weather, with rain or snow, developed over the Rocky Mountain districts and the Southwest. Cloudy weather, with rather widespread precipitation, prevailed for several days during the passage eastward of the storm area, but by the end of the first week high pressure had again become the dominant feature of the weather and low temperatures for the season of the year prevailed in all districts save in the far West.

Temperature changes were not marked during the next few days. There was a tendency to warm up in nearly all districts; the weather continued abnormally cool, however, in the Gulf States where heavy frosts occurred, and in the Missouri Valley where the early morning temperatures were near or below zero.

At the close of the second week of the month there was a change to more seasonable temperatures, and warmer weather set in over the Northwest and far West; but unusually steady cold still continued in the more southerly districts. By the middle of the month day temperatures had become unusually high in the Pacific Coast States; but high pressure with attendant cold northerly winds still persisted in the South, while along the northern border, the prevailing winds being southerly, more seasonable temperatures obtained.

The period from the 14th to the 24th was remarkably cold over the extreme southern portions of the country, the average for the period being nearly 15° below the normal on the Texas coast, while in extreme southern Florida it was 10° or more below normal.

During the same period the average temperatures over the Pacific Coast States were considerably above normal, and from about the 21st to 23d the day temperatures were unusually high.

With only slight variations from day to day, the weather during the last week of the month continued cold for the season over the Southern States, although the negative departures were somewhat less than during the preceding period. In the northern districts the last week of the month was cold throughout, while in portions of the far West the week was moderately warm.

At the close of the month cold weather still prevailed in the Northwest, with temperatures of 20° or more below the freezing point in the Dakotas, while almost winter conditions prevailed in portions of the Gulf States.

Precipitation.—The storm that developed over the far Southwest near the first of the month moved slowly eastward, and by the morning of the 4th light rains and snows had fallen over much of the Rocky Mountain and Great Plains regions, and some heavy rains had occurred in eastern Texas and portions of the lower Mississippi Valley. During the following few days the storm center moved northeastward to the Great Lakes, and the precipitation area gradually extended over all districts from the Mississippi Valley eastward to the Atlantic coast. Heavy rains occurred in the east Gulf and South Atlantic States and portions of the Ohio Valley, and heavy snows in the lower Missouri and portions of the upper Mississippi Valleys, and lighter falls were general in the Lake region and Appalachian Mountain districts from Virginia northward. With the passage eastward of the above-mentioned storm, fair weather prevailed in most districts until about the end of the first decade, when light rains and snows occurred in the Southwest and extended eastward over much of Texas and Oklahoma.

The first half of the second decade was unusually free from precipitation in all parts of the country save the extreme Northwest, where some heavy rains occurred near the coast. About the 15th, however, unsettled weather developed in the districts to the eastward of the Mississippi, and light rains were fairly general during the following day over the east Gulf and South Atlantic States, with light local snows in parts of the Appalachian Mountains and to the westward as far as the Mississippi Valley.

Fair weather was again dominant during the latter part of the second decade, except for some local rains or snows in the central and eastern districts and at a few points in the Rocky Mountain region. Somewhat unsettled weather, with local rains and snows, mostly light, continued for several days at the beginning of the third decade. In a few localities heavy falls of snow occurred, notably in portions of the mountainous districts of Kentucky where the fall was as much as 1 foot, and in portions of South Dakota where heavy drifts caused some delay to traffic.

The latter part of the month was notably free from any considerable precipitation except near the end, when a storm moved into the Pacific coast States, with some heavy rains in northern California, and light snow as it passed eastward over the mountains. At the end of the month this storm had moved rapidly to the South Atlantic coast, and local rains and snows had occurred over considerable areas of the central and southern portions of the country. The falls were mostly light, however, except in portions of the Gulf States, where substantial rains occurred.

In portions of New England and other northeastern States the monthly precipitation was the least ever known for March, and in some cases, as at Boston with a record extending back nearly 100 years, the amount recorded during the month just closed was the least for any month of the entire period. Precipitation was likewise deficient throughout all other portions of the country to the eastward of the Mississippi and generally to westward of the Rocky Mountains. The only portion of the country in which an appreciable excess of precipitation occurred was the middle Plains region, where heavy snow early in the month was sufficient to give monthly totals above the normal.

The most important fall of snow for the month occurred about the 5th and 6th and covered the northern Plains region, the heaviest falls occurring in central Nebraska and the adjoining portions of Kansas and South Dakota, and lighter falls thence northeastward to the upper Lakes. This body of snow remained largely unmelted for several weeks and at the end of the month portions of it were still unmelted, especially in Nebraska and South Dakota. After the end of the first decade there was, as a rule, little additional snowfall and the covered area gradually decreased, and at the close of the month only small areas in the more northern districts remained snow covered. But little snow occurred during the month in the northern mountain districts and as the fall during the preceding months had been largely deficient, the outlook for a good water supply for the coming irrigation season is accordingly poor. In the middle mountain districts the fall for the winter was more nearly normal, while in California and portions of the southern mountain districts there was an abundance of snow during the winter and the outlook at the close of March was favorable for a plentiful supply of water until late in the summer.

Average accumulated departures for March, 1915.

Districts.	Temperature.			Precipitation.			Cloudiness.		Relative humidity.	
	General mean for the current month.	Departure for the current month.	Accumulated departure since Jan. 1.	General mean for the current month.	Departure for the current month.	Accumulated departure since Jan. 1.	General mean for the current month.	Departure from the normal.	General mean for the current month.	Departure from the normal.
	° F.	° F.	° F.	Ins.	Ins.	Ins.	0-10	P. ct.		
New England.....	32.4	-0.5	+8.2	0.21	-3.60	-1.20	3.8	-1.9	62	-13
Middle Atlantic.....	37.0	-3.0	+4.6	1.16	-2.50	-0.10	4.1	-1.6	62	-10
South Atlantic.....	46.5	-7.3	+4.6	2.14	-2.20	-2.20	4.9	0.0	66	-9
Florida Peninsula.....	62.1	-8.1	-10.2	1.72	-0.60	+3.00	6.1	+2.3	72	-5
East Gulf.....	49.0	-8.3	-9.3	3.07	-2.80	-1.50	5.0	0.0	67	-6
West Gulf.....	48.2	-9.8	-6.8	2.28	-0.80	-1.40	6.2	+1.1	72	-6
Ohio Valley and Tennessee.....	37.4	-6.7	-2.5	1.78	-2.60	-3.50	6.0	0.0	69	-2
Lower Lakes.....	29.8	-3.1	+2.2	1.00	-1.60	-1.40	5.2	-1.4	74	-2
Upper Lakes.....	28.5	+0.9	+8.4	0.72	-1.50	-1.30	5.4	-0.6	75	-4
North Dakota.....	23.2	+2.4	+15.0	0.28	-0.70	-1.10	4.5	-1.1	77	-1
Upper Mississippi Valley.....	33.0	-3.0	+4.9	0.79	-1.00	-0.40	5.9	+0.2	76	+3
Missouri Valley.....	28.7	-7.2	+1.5	1.51	-0.40	-1.60	7.2	+1.5	83	+11
Northern slope.....	30.3	-0.6	+5.8	0.90	-0.10	-0.70	5.9	+0.5	75	+8
Middle slope.....	34.0	-8.5	-0.7	1.44	0.00	+1.50	6.9	+2.3	75	+15
Southern slope.....	44.0	-9.2	-6.5	1.18	+0.30	+0.70	6.4	+0.2	67	+12
Southern Plateau.....	48.2	-2.8	-7.9	0.52	0.00	+1.00	3.5	-0.2	50	+14
Middle Plateau.....	43.3	-2.3	-1.0	0.60	-0.70	-0.50	5.0	0.0	50	-6
Northern Plateau.....	45.9	+5.6	+11.0	1.35	-0.20	-1.10	5.7	-0.1	58	-8
North Pacific.....	49.8	+5.6	+10.3	3.24	-1.70	-4.70	6.3	-0.3	77	+2
Middle Pacific.....	54.9	+3.6	+4.2	2.12	-2.00	+4.50	5.3	-0.1	71	-3
South Pacific.....	59.4	+4.2	+6.9	0.60	-2.00	+3.30	4.5	-2.6	70	-1

Maximum wind velocities, March, 1915.

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
		Mi. hr.				Mi. hr.	
Block Island, R. I.	3	54	nw.	North Head, Wash.	17	70	s.
Do.....	26	60	nw.	Do.....	29	52	s.
Do.....	27	58	nw.	Do.....	31	52	se.
Do.....	30	71	nw.	Point Reyes Light, Cal.	1	78	nw.
Buffalo, N. Y.	2	50	nw.	Do.....	2	57	nw.
Fort Worth, Tex.	30	50	nw.	Do.....	3	61	nw.
Mount Tamapais, Cal.	1	57	nw.	Do.....	4	60	nw.
Do.....	4	64	nw.	Do.....	5	56	nw.
Do.....	27	50	se.	Do.....	6	57	nw.
Do.....	28	54	sw.	Do.....	26	60	s.
New York, N. Y.	2	54	nw.	Do.....	27	67	s.
Do.....	3	62	nw.	Do.....	28	50	s.
Do.....	12	50	nw.	Providence, R. I.	26	59	nw.
Do.....	21	54	nw.	Sandy Hook, N. J.	3	82	nw.
Do.....	26	60	nw.	Do.....	30	56	w.
Do.....	30	60	nw.	Tatoosh Island, Wash.	14	56	s.
Norfolk, Va.	22	52	w.	Do.....	17	58	s.
North Head, Wash.	13	50	se.	Do.....	20	56	e.
Do.....	14	62	se.				